USER MANUAL

SML 40-Chassis

CWDM Passive 24 Slot Rack

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SML-40-chassis
19" 4RU 24 Slot Passive Chassis for CWDM.

User Manual
Version 1.2 Jan 11, 2010

This manual supports the following models:
SML 40-Chassis

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Chapter 1 Introduction

1.1 Description

SML40-Chassis is a 4U 19-inch CWDM Passive Rack that features 24 cards capacity and supports SML-40-MDxx, MUX/DeMUX cards. The 8+1 channels MUX/DEMUX CWDM wavelength includes 1471nm, 1491nm, 1511nm, 1531nm, 1551nm, 1571nm, 1591nm, 1611nm and 1311nm per ITU-T G.694.2 CWDM grid. The 1311nm CWDM channel is accessible separately. The MUX/DeMUX cards provide the primary wave division and combination functions. Line side wave lengths require translation to client side equipment via the transponder card. The unique design makes the SML4000 a high density CWDM passive rack, for easy and efficient network connection.

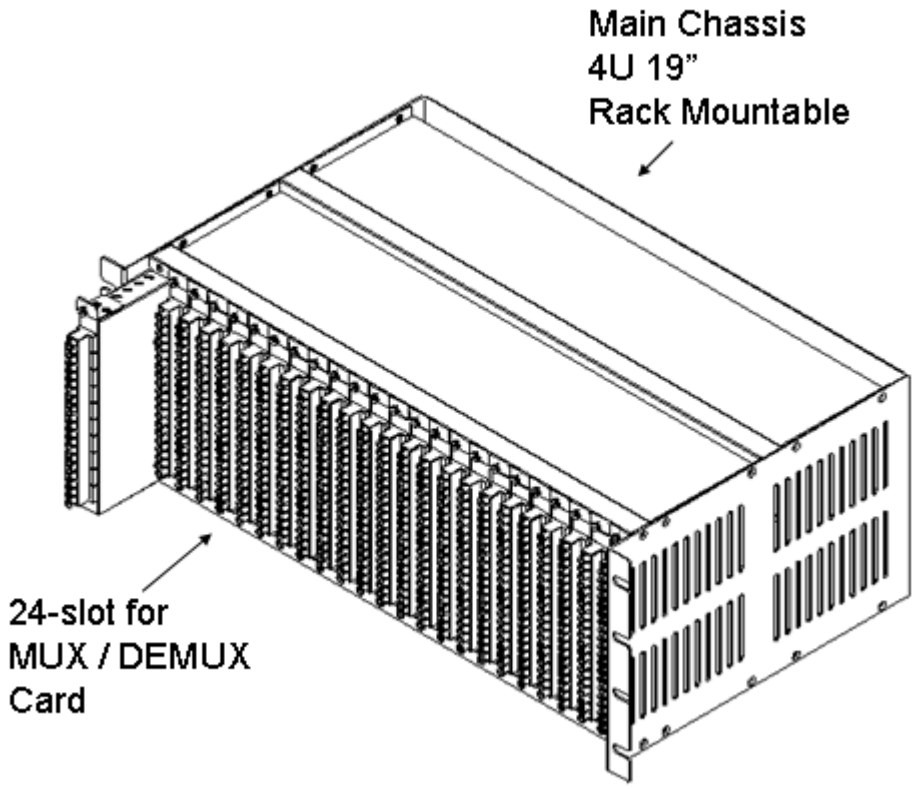

Figure 1. SML 40-Chassis Major Components

1.2 General Chassis Specifications

1.2.1 SML 40-Chassis

Format: 4RU, 19”
Dimensions: 277 mm (W) x 177mm (H) x 481mm (D)
Slot Capacity: 24 total
Net Weight : 3.4g (7.4 lb.)

1.3 Power Specifications

Passive Chassis requires no power

1.4 Introduction to CWDM

In 2001, CWDM technology was introduced to lower the cost of metro network deployments. As shown in Figure 3, CWDM uses wide (20nm) wavelength spacing and this enables the use of low cost un-cooled lasers and low cost thin film optical filters.

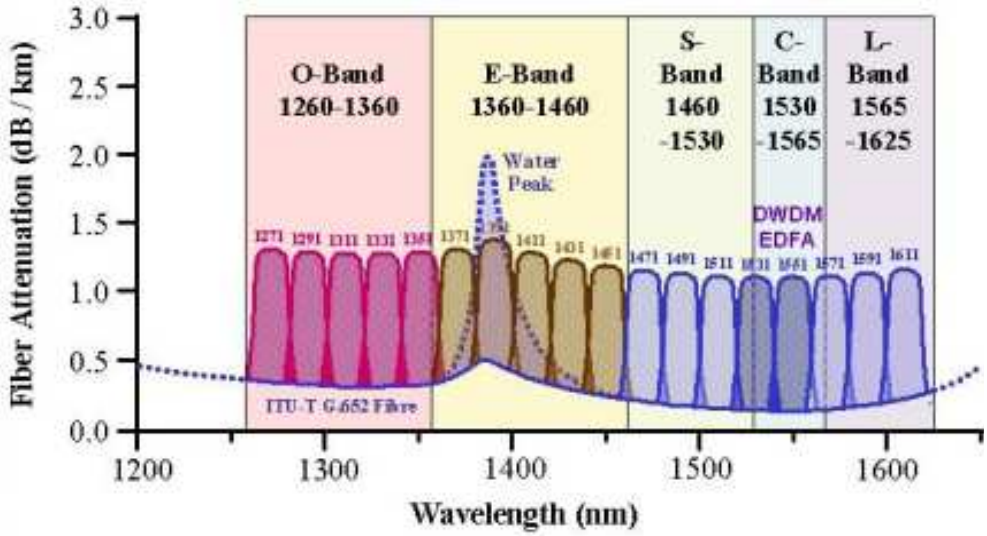

Figure 3. CWDM optical bands based upon ITU-T G.694.2

The SML-40-MDxx MUX/DeMUX cards use the CWDM wavelengths in the S, C and L bands. Starting from the 1471nm band, 4 standard center frequencies are used in the 4 channel MUX/DeMUX line card (1551, 1571, 1591, & 1611nm). In the 8 channel MUX/DeMUX line card, 8 center frequencies are used (1471, 1491, 1511, 1531, 1551, 1571, 1591, & 1611nm). In the 4+1 or 8+1 MUX/DeMUX line cards, an additional 1311 channel is added for management use or as an additional transparent channel. The SML 4000 MUX/DeMUX cards follows the standards of ITU-T G.694.2.

1.5 Breakdown of Line cards for SML-40-Chassis

Model name	Generic Description
SML-40-8181-L	8+1 channel MUX/DEMUX Line Card (1471, 1491, 1511, 1531, 1551, 1571, 1591, & 1611)
SML-40-MD80	8 ch. MUX/DEMUX Card (1471, 1491, 1511, 1531, 1551, 1571, 1591, & 1611)
SML-40-MD81	8 ch. MUX/DEMUX Card (1471, 1491, 1511, 1531, 1551, 1571, 1591, & 1611) + Monitor
SML-40-MD50	5 ch. MUX/DEMUX Card (1491, 1511, 1571, 1591, & 1611)
SML-40-MD51	5 ch. MUX/DEMUX Card (1491, 1511, 1571, 1591, & 1611) + Monitor
SML-40-2MD40	Dual 4 Ch. DeMux Card (1471, 1491, 1511, 1531)

Other line cards to be announced in the future.

Chapter 2 Installation

2.1 General

The Installation chapter will cover the MUX/DEMUX cards installation of the SML-40-Chassis.

Required Tools

You will need these tools to install the Chassis:

- Number 2 Phillips screwdriver for the 3mm and the 12-24 chassis installation screws.
- Level (optional)

2.2 Unpacking

Step 1. Inspect the outside carton for any shipping damage and report immediately to your freight forwarder if any damage is visible.
Step 2. Place the shipping carton with the top facing up. Carefully cut through the shipping tape with a box cutter knife.
Step 3. Open the top cover of the carton and remove any pizza box.
Step 4. Pull the entire chassis straight up out of the carton, including the endcaps.
Step 5. Once the chassis is clear of the carton, you may remove the endcaps.
Step 6. The chassis should be wrapped in a plastic bag. Remove the chassis from the plastic bag. Set the chassis on a secure flat surface and again inspect for any shipping damage. Report any damage immediately to your freight forwarder.

2.3 Rack Mount Instructions

The rack mount brackets are an integral part of the chassis. This allows the chassis to be mounted in a 19" wide rack space. The chassis requires a total of four rack mount spaces (4U). Please see the chassis top view graphics below.

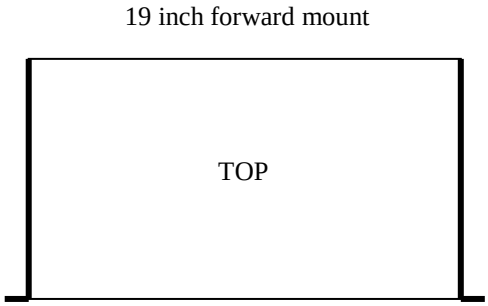

Figure 2-1 Chassis mounting

It is recommended that the SML chassis be mounted into the rack cabinet prior to installing any required line cards. Without cards, the chassis is still quite heavy, but it can easily be installed by a single person.

WARNING!!: A fully loaded chassis is very heavy and unbalanced. Dropping a fully loaded chassis would result in severe damage to the chassis and line cards, as well has pose a serious safety hazard resulting in bodily injury to the installation personnel. Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

2.4 Installing a SML MUX/DeMUX Card

Use the following procedure to install a MUX/DEMUX Card in the SML-40-Chassis

Step 1. While still grasping the center of the front panel of the card with one hand, place the other hand under the card to support it.
Step 3. When Insert the MUX/DEMUX card, Start either from first slot or last slot.
Stem4. When slide the MUX/DEMUX Card into the slot, the line card position hole should fix on rack position pin.
Step 5. Tighten the thumbscrew by hand.

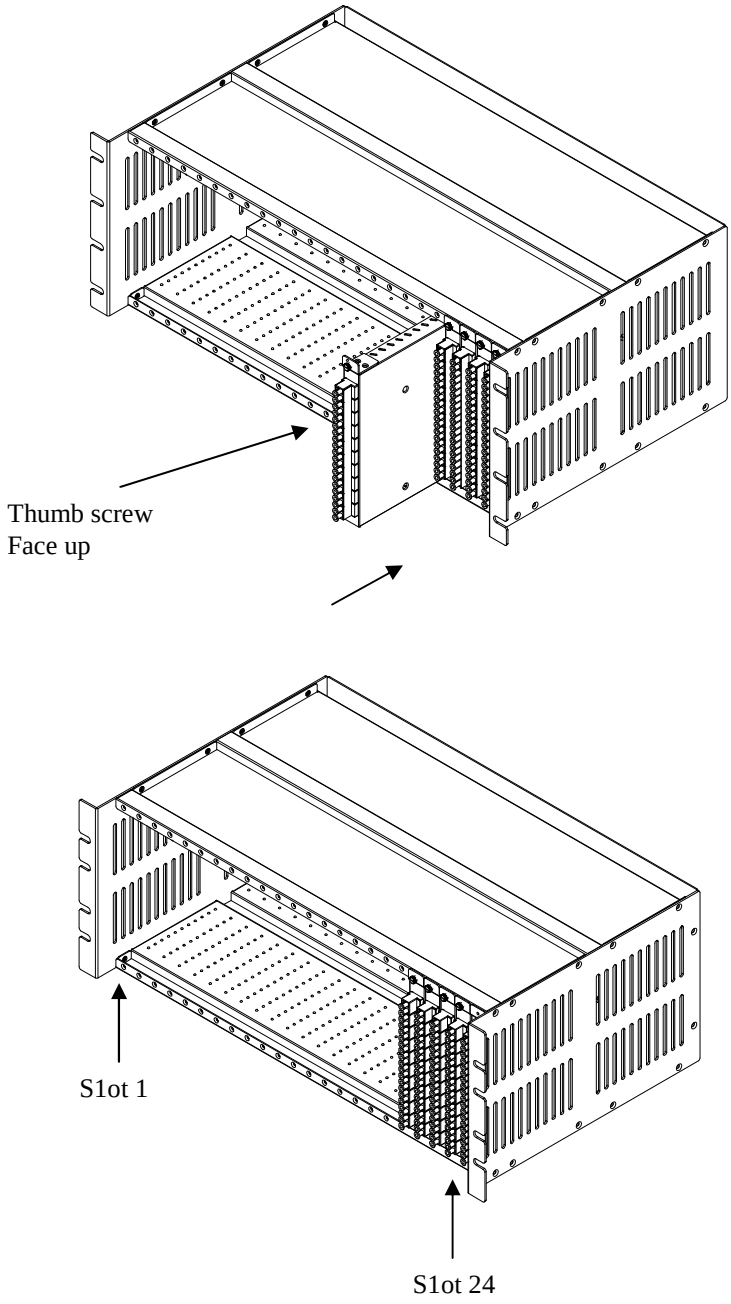

Figure 2.2 Installing MUX/DEMUX card, start either from Slot 1 or slot 24

There is a Line card Position Pin on the rear of SML-40-Chassis. When installing the MUX/DEMUX card, the Line card Position hole needs to be fixed with the SML-40-MDxx Line card Position pin.

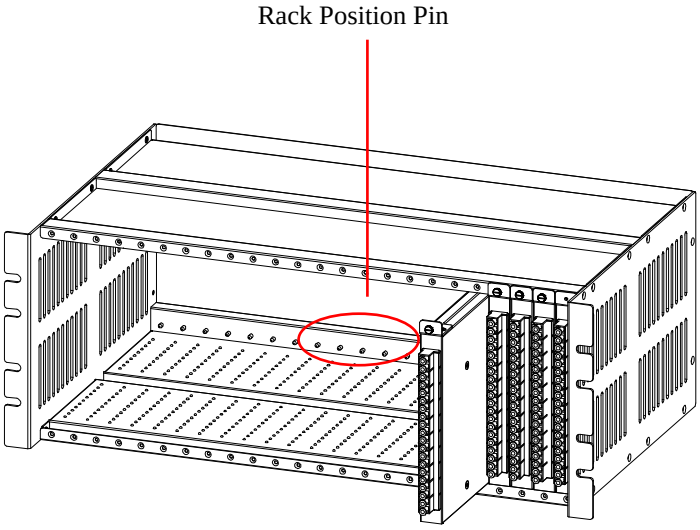

Figure 2.3 The Rack Position Pin of SML-40-Chassis

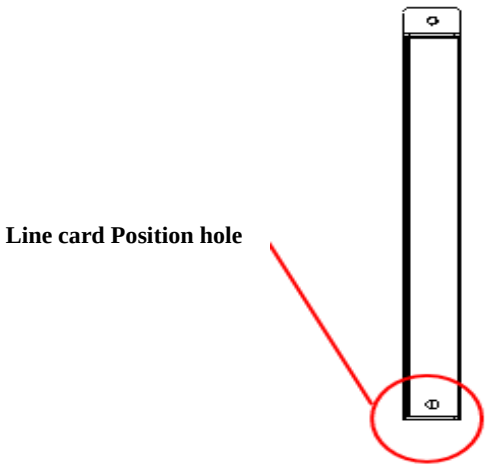

Figure 2.4. The Line card Position hole of MUX/DEMUX card